

Advanced Communications Engineering, Inc.

The Ed4U Project

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June 12, 1998

Magalie Roman Salas
Secretary
Federal Communications Commission
1919 M St. NW
Washington, DC 20554

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Re: MM Docket 93-25

Dear Secretary Salas,

Basic Statement

The proposed 4 - 7 % public service mandate on DBS carriers is both unneeded and counterproductive. There is no necessity for further unfunded government mandates in this area. The nature of the new digital broadcast services is such that any attempt by the FCC to implement and/or define mandates will simply stifle innovation and hinder rather than help development of new much-needed educational services.

As an example, consider the fact that the most far reaching educational proposal in the history of the Nation was shot down by the FCC when the DBS license at 110 deg. W. was rescinded in a highly-contentious action (3-2 FCC vote) and subsequently auctioned to the highest bidder for approximately \$750 million — none of which went to the people and organizations who spent over a decade of time and expense in designing and promoting this innovative system. A contractual commitment had been made for almost 15 % (4 out of 27) of the DBS operator's capacity to be donated to the Foundation for Educational Advancement Today (FEAT), an organization originally headed by the Hon. Wilbur D. Mills and currently headed by Mr. James Beggs, former NASA Administrator.

Due to the pioneering advanced digital design of this DBS system, which specifically emphasized new innovative types of educational broadcasting, this available transponder capacity could have resulted in as much as 50 to 75 % of the actual program content channel capacity being devoted to education. In other words, at any one time, more than half of the program channels of this DBS system were slated to be educational. This compares to the 4 % mandate being discussed today and was planned in an era when no mandates of any kind were even being mentioned.

It is our understanding that the FCC revocation action and subsequent auction is currently being revisited, as it well should be, considering its unprecedented nature. It would be a national tragedy to deprive the county's future generations of this massive educational resource.

It is our contention that whatever happens from this point with the 110 deg. W. DBS license itself, the four transponders should be returned to FEAT in order to allow it to fulfill its original charter. In the consideration of any public service mandate, it should be contemplated that a vastly farther reaching commitment was previously offered but quashed

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due to the FCC's action. It would certainly be within the national interest for at least these four transponders to be returned to FEAT.

ACE (Advanced Communications Engineering, Inc.), the developer and owner of the technologies which enabled FEAT's educational proposals, remains committed to providing the technology necessary to implement such a Nationwide Educational DBS system. ACE is currently moving ahead with plans to implement its system on a variety of delivery systems through its Ed4U Project. Ideally, it would best be implemented from a single source using the four transponders that would have been (and still could be) available to FEAT rather than being dispersed over a variety of media.

The new digital broadcast medium is radically different from anything that has preceded it. No one knows for sure how this medium will evolve. However one thing is certain — maximum flexibility must be maintained so that innovation can proceed unhindered by considerations of government mandates.

Technology Issues

DBS satellite systems currently follow very few of the technical standards that are being implemented for the over-the-air DTV system. This is both bad and good. It is bad because it has resulted and is resulting in a proliferation of incompatible delivery systems. It is good because it allows innovative satellite providers to avoid the morass of inane "standards" that were adopted as part of the DTV system, while incorporating improvements and new services. Besides, none of these "standards" are applicable to highly-efficient systems such as what ACE designed originally for FEAT's educational broadcasting system.

The issue of mandated public service capacity percentage raises many technical definition questions in a generic digital delivery system. If a DBS provider offers one HDTV educational program occupying all of one of say 25 transponders, does this constitute the mandated four percent even though it may be only one out of 200 (0.5 %) standard entertainment channels? What about a packetized delivery system that does not have fixed bandwidth "channels"? Do we measure average digital bandwidth (bit rate) or delivered analog bandwidth at the receiver? The latter might make more sense due to the fact that most educational programming can be conveyed at a lower bit-rate without losing video quality compared to entertainment programming due to the difference in image dynamics and the potential for software-agent image generation in educational programming.

Another technical issue involves the desire to have independent uplinks into the same transponder for some educational programming, something that is not possible with current DBS transmission formats. This also complicates the definition and measurement of any mandated public service percentage.

Other questions involve both technical and operational issues. All current satellite broadcast systems are subscriptions, the price of which is determined by a variety of issues including programming packages, promotional aspects, and PPV selections. Many times, PPV programs such as popular movies, are multiple-staggered and continuously repeated to allow convenient viewing. As such, how would educational percentage be measured? If the same one-hour program/course is presented 24 times per day, once every hour, in order to allow flexibility of reception, how is that measured? What if every one of those same-course hours contained different combinations of illustrations of subject matter and different student mini-exams? What about a particular class period which simply directs the students (viewers) to a web-site on the Internet?

As can be seen, the practical issues involved in defining any mandated public service percentage are fraught with difficulty, ambiguity, and uncertainty. Due to the rapid pace of technological change and potentially for innovative broadcast content in this new medium, it would be unwise at this point to attempt to impose any mandates with which no one currently knows how to define or measure. This new digital medium must be allowed to rapidly evolve and seek its own destiny in its service to mankind.

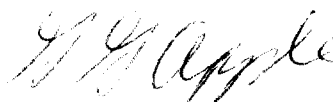
Background

Advanced Communications Engineering, Inc. (ACE) is owned by G. Gordon Apple and includes the people who did the first two system designs for digital broadcast systems, one for digital DBS HDTV transmission for CBS, then for Advanced Communications Corp. (ACC) for its DBS system at 110 deg. W. and 148 deg. W. The latter, due to the foresight of its President, Daniel H. Garner, in recognizing its immense advantages, particularly to educational applications, was slated to be digital from the very beginning. It included not only all the features of current operating DBS systems, but was designed as a digital integrated broadcasting system, including computer-based data services and software-agent-based educational course broadcasting into digital TVs and computers, the first such educational broadcast system ever designed or proposed.

The original educational proposal was done for the Public Service Satellite Consortium (PSSC) and resulted in the formation of FEAT and its innovative YES (Your Educational Services) Networks. In conjunction with ACC, FEAT, many educational institutions and organizations (including MIT), and others, ACE submitted detailed proposals to US Dept. of Education, NASA, DARPA, and others for the purpose of establishing a nationwide educational DBS-based broadcasting system.

ACE, through its Ed4U Project, is continuing to develop innovative digital broadcast system designs and software with which it plans to establish a nationwide and worldwide educational course broadcast system.

Sincerely,



G. Gordon Apple, PhD

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